

Titles of most frequently occurring classifications of patents returned
from a search of 10594396 on Oct 13 , 2009

- 9 704/207 (7 OR, 2 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/200 . SPEECH SIGNAL PROCESSING
704/201 .. For storage or transmission
704/205 ... Frequency
704/206 Specialized information
704/207 Pitch
- 6 704/219 (1 OR, 5 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/200 . SPEECH SIGNAL PROCESSING
704/201 .. For storage or transmission
704/219 ... Linear prediction
- 5 704/208 (1 OR, 4 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/200 . SPEECH SIGNAL PROCESSING
704/201 .. For storage or transmission
704/205 ... Frequency
704/206 Specialized information
704/207 Pitch
704/208 Voiced or unvoiced
- 5 704/270 (1 OR, 4 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/200 . SPEECH SIGNAL PROCESSING
704/270 .. Application
- 4 704/E13.004 (0 OR, 4 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/E13.001 . SPEECH SYNTHESIS; TEXT TO SPEECH SYSTEMS (EPO)
704/E13.002 .. Methods for producing synthetic speech; speech
synthesizers (EPO)
704/E13.004 ... Sound editing, manipulating voice of the synthesizer
(EPO)
- 4 704/206 (2 OR, 2 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/200 . SPEECH SIGNAL PROCESSING
704/201 .. For storage or transmission
704/205 ... Frequency
704/206 Specialized information
- 3 704/E21.001 (0 OR, 3 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/E21.001 . MODIFICATION OF AT LEAST ONE CHARACTERISTIC OF SPEECH WAVES
(EPO)
- 3 704/232 (2 OR, 1 XR)
Class 704 DATA PROCESSING; SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/200 . SPEECH SIGNAL PROCESSING

704/ 231 .. Recogniti on
704/ 232 ... Neural net work

3 704/ E19. 01 (0 OR, 3 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ E19. 001 . SPEECH OR AUDI O SI GNAL ANALYSI S- SYNTHESI S TECHNI QUES FOR
REDUNDANCY REDUCTI ON, E. G., I N VOCODERS, ETC.; CODI NG OR DECODI NG OF SPEECH OR AUDI O
SI GNALS; COMPRESSI ON OR EXPANSI ON OF SPEECH OR AUDI O SI GNALS, E. G., SOURCE- FI LTER
MODELS, PSYCHOACoustI C ANALYSI S, ETC. (EPO)
704/ E19. 01 .. Using spectral analysi s, e. g., transform vocoders, subband
vocoders, perceptual audi o coders, psychoacoustically based lossy encodi ng, etc.,
e. g., MPEG audi o, Dol by AC-3, etc. (EPO)

3 704/ 221 (3 OR, 0 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ 200 . SPEECH SI GNAL PROCESSI NG
704/ 201 .. For storage or transmi ssi on
704/ 221 ... Pattern matchi ng vocoders

3 704/ 271 (0 OR, 3 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ 200 . SPEECH SI GNAL PROCESSI NG
704/ 270 .. Appli cati on
704/ 271 ... Handi cap ai d

3 704/ 203 (1 OR, 2 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ 200 . SPEECH SI GNAL PROCESSI NG
704/ 201 .. For storage or transmi ssi on
704/ 203 ... Transfor mati on

3 704/ 246 (1 OR, 2 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ 200 . SPEECH SI GNAL PROCESSI NG
704/ 231 .. Recogniti on
704/ 246 ... Voi ce recogniti on

3 704/ 272 (3 OR, 0 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ 200 . SPEECH SI GNAL PROCESSI NG
704/ 270 .. Appli cati on
704/ 272 ... Novelty i tem

3 704/ E17. 002 (0 OR, 3 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ E17. 001 . SPEAKER I DENTI FI CATI ON OR VERI FI CATI ON (EPO)
704/ E17. 002 .. Recogniti on of special voi ce characteristi cs, e. g., for
use i n a lie detector; recogniti on of animal voi ces, etc. (EPO)

3 704/ 220 (1 OR, 2 XR)

Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
704/ 200 . SPEECH SI GNAL PROCESSI NG
704/ 201 .. For storage or transmi ssi on
704/ 220 ... Analysi s by synt hesi s

- 3 704/E19.024 (0 OR, 3 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/E19.001 . SPEECH OR AUDIO SIGNAL ANALYSIS-SYNTHESIS TECHNIQUES FOR
 REDUNDANCY REDUCTION, E.G., IN VOCODERS, ETC.; CODING OR DECODING OF SPEECH OR AUDIO
 SIGNALS; COMPRESSION OR EXPANSION OF SPEECH OR AUDIO SIGNALS, E.G., SOURCE-FILTER
 MODELS, PSYCHOACOUSTIC ANALYSIS, ETC. (EPO)
 704/E19.023 .. Using predictive techniques; codecs based on source-filter
 modelization (EPO)
 704/E19.024 ... Determination or coding of the spectral characteristics,
 e.g., of the short-term prediction coefficients, etc. (EPO)
- 3 704/205 (1 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/201 .. For storage or transmission
 704/205 ... Frequency
- 2 704/269 (1 OR, 1 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/258 .. Synthesis
 704/269 ... Transformation
- 2 379/390.01 (0 OR, 2 XR)
 Class 379 TELEPHONIC COMMUNICATIONS
 379/387.01 . SUBSTATION OR TERMINAL CIRCUITRY
 379/388.01 .. For loudspeaking terminal
 379/390.01 ... Amplification or attenuation level control
- 2 381/56 (0 OR, 2 XR)
 Class 381 ELECTRICAL AUDIO SIGNAL PROCESSING SYSTEMS AND DEVICES
 381/56 . MONITORING OF SOUND
- 2 381/66 (0 OR, 2 XR)
 Class 381 ELECTRICAL AUDIO SIGNAL PROCESSING SYSTEMS AND DEVICES
 381/66 . DEREVERBERATORS
- 2 704/268 (1 OR, 1 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/258 .. Synthesis
 704/268 ... Frequency element
- 2 704/264 (1 OR, 1 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/258 .. Synthesis
 704/264 ... Excitation
- 2 704/251 (1 OR, 1 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/231 .. Recognition
 704/251 ... Word recognition
- 2 704/254 (0 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,

LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/231 .. Recognition
 704/251 ... Word recognition
 704/254 Subportions

2 704/261 (0 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/258 .. Synthesis
 704/261 ... Vocal tract model

2 704/500 (0 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/500 . AUDIO SIGNAL BANDWIDTH COMPRESSION OR EXPANSION

2 704/E19.007 (0 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/E19.001 . SPEECH OR AUDIO SIGNAL ANALYSIS-SYNTHESIS TECHNIQUES FOR
 REDUNDANCY REDUCTION, E.G., IN VOODERS, ETC.; CODING OR DECODING OF SPEECH OR AUDIO
 SIGNALS; COMPRESSION OR EXPANSION OF SPEECH OR AUDIO SIGNALS, E.G., SOURCE-FILTER
 MODELS, PSYCHOACOUSTIC ANALYSIS, ETC. (EPO)
 704/E19.007 .. Speech coding using phonetic or linguistic decoding of
 the source; reconstruction using text-to-speech synthesis (EPO)

2 704/235 (1 OR, 1 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/231 .. Recognition
 704/235 ... Speech to image

2 704/E11.006 (0 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/E11.001 . MISCELLANEOUS ANALYSIS OR DETECTION OF SPEECH
 CHARACTERISTICS (EPO)
 704/E11.006 .. Pitch determination of speech signals (EPO)

2 704/265 (1 OR, 1 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/258 .. Synthesis
 704/265 ... Interpolation

2 704/245 (0 OR, 2 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/231 .. Recognition
 704/243 ... Creating patterns for matching
 704/245 Clustering

2 704/250 (2 OR, 0 XR)
 Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
 LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
 704/200 . SPEECH SIGNAL PROCESSING
 704/231 .. Recognition
 704/246 ... Voice recognition

704/ 250 Specialized models

2 704/ 276 (2 OR, 0 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/ 200 . SPEECH SIGNAL PROCESSING
704/ 270 .. Application
704/ 276 ... Pattern display

2 704/ 244 (1 OR, 1 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/ 200 . SPEECH SIGNAL PROCESSING
704/ 231 .. Recognition
704/ 243 ... Creating patterns for matching
704/ 244 Update patterns

2 704/ 201 (0 OR, 2 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/ 200 . SPEECH SIGNAL PROCESSING
704/ 201 .. For storage or transmission

2 704/ E19. 042 (0 OR, 2 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/ E19. 001 . SPEECH OR AUDIO SIGNAL ANALYSIS-SYNTHESIS TECHNIQUES FOR
REDUNDANCY REDUCTION, E. G., IN VOCODERS, ETC.; CODING OR DECODING OF SPEECH OR AUDIO
SIGNALS; COMPRESSION OR EXPANSION OF SPEECH OR AUDIO SIGNALS, E. G., SOURCE-FILTER
MODELS, PSYCHOACOUSTIC ANALYSIS, ETC. (EPO)
704/ E19. 023 .. Using predictive techniques; codecs based on source-filter
modelization (EPO)
704/ E19. 039 ... Details of speech and audio coders (EPO)
704/ E19. 04 Vocoder architecture (EPO)
704/ E19. 041 Vocoders using multiple modes (EPO)
704/ E19. 042 Using sound class specific coding, hybrid encoders,
object-based coding (EPO)

2 704/ 223 (1 OR, 1 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/ 200 . SPEECH SIGNAL PROCESSING
704/ 201 .. For storage or transmission
704/ 221 ... Pattern matching vocoders
704/ 223 Excitation patterns

2 704/ E19. 035 (0 OR, 2 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION
704/ E19. 001 . SPEECH OR AUDIO SIGNAL ANALYSIS-SYNTHESIS TECHNIQUES FOR
REDUNDANCY REDUCTION, E. G., IN VOCODERS, ETC.; CODING OR DECODING OF SPEECH OR AUDIO
SIGNALS; COMPRESSION OR EXPANSION OF SPEECH OR AUDIO SIGNALS, E. G., SOURCE-FILTER
MODELS, PSYCHOACOUSTIC ANALYSIS, ETC. (EPO)
704/ E19. 023 .. Using predictive techniques; codecs based on source-filter
modelization (EPO)
704/ E19. 026 ... Determination or coding of the excitation function;
determination or coding of the long-term prediction characteristics (EPO)
704/ E19. 035 Determination or coding of a code excitation; code
excited linear prediction (CELP) vocoders (EPO)

2 704/ 228 (0 OR, 2 XR)

Class 704 DATA PROCESSING: SPEECH SIGNAL PROCESSING, LINGUISTICS,
LANGUAGE TRANSLATION, AND AUDIO COMPRESSION/DECOMPRESSION

- 704/ 200 . SPEECH SI GNAL PROCESSI NG
- 704/ 201 .. For storage or transmi ssi on
- 704/ 226 ... Noi se
- 704/ 228 Post -transmi ssi on

- 2 455/ 570 (2 OR, 0 XR)
- Class 455 TELECOMMUNI CATI ONS
- 455/ 73 . TRANSM I TTER AND RECEI VER AT SAME STATI ON (E. G ,
- TRANSCEI VER)
- 455/ 550. 1 .. Radi otel ephone equi pment detai l
- 455/ 569. 1 ... Hands-free or l oudspeaki ng arrangement
- 455/ 570 Noi se suppressi on or echo cancell ati on

- 2 704/ 213 (2 OR, 0 XR)
- Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
- LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
- 704/ 200 . SPEECH SI GNAL PROCESSI NG
- 704/ 201 .. For storage or transmi ssi on
- 704/ 211 ... Ti me
- 704/ 213 Zero crossi ng

- 2 704/ 243 (0 OR, 2 XR)
- Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
- LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
- 704/ 200 . SPEECH SI GNAL PROCESSI NG
- 704/ 231 .. Recogniti on
- 704/ 243 ... Creati ng pattern s for matchi ng

- 2 704/ E15. 008 (0 OR, 2 XR)
- Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
- LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
- 704/ E15. 001 . SPEECH RECOGNI TI ON (EPO)
- 704/ E15. 007 .. Creati on of reference templ ates; traini ng of speech
- recogniti on systems, e. g., adapti on to the characteristi cs of the speaker's voi ce,
- etc. (EPO)
- 704/ E15. 008 ... Trai ni ng (EPO)

- 2 704/ E15. 017 (0 OR, 2 XR)
- Class 704 DATA PROCESSI NG: SPEECH SI GNAL PROCESSI NG, LI NGUI STI CS,
- LANGUAGE TRANSLATI ON, AND AUDI O COMPRESSI ON/ DECOMPRESSI ON
- 704/ E15. 001 . SPEECH RECOGNI TI ON (EPO)
- 704/ E15. 014 .. Speech cl assi ficati on or search (EPO)
- 704/ E15. 017 ... Usi ng arti fici al neural networ ks (EPO)